
Section Eight: Distribution



Estimated
Contact
Time:
45 minutes

This module covers:

...*distribution*, the process of providing medical supply items to the user wards, clinic units, and operating room suites. Accurate, efficient, distribution of equipment and supplies is critical to providing quality patient care. If the correct supplies don't reach their intended user in a useable condition, then the decontamination, sterilization, and storage processes are just a waste of time.

Following instruction, you should be able to perform the following:

- ☑ Identify distribution and delivery methods and procedures, including:
 - five main distribution types
 - types of specialty carts and their use
 - delivery methods and equipment
 - delivery procedures and equipment tracking

Distributing Supplies

The distribution area is the center of the Supply, Processing and Distribution organization. Its purpose is to stock, maintain, and distribute sterile and clean medical supplies and equipment to the user areas for patient care needs. Items are usually distributed to the ward and clinic areas according to a prearranged schedule and to operating rooms on a daily basis, depending on the procedures that are scheduled.

SPD technicians must be familiar with the names and uses of supplies and equipment, and be able to deliver them, where they are needed, when they are needed.

When clean and sterile supplies are needed in the user areas of the healthcare facility, they must be transferred from the SPD department to the point of use. This distribution is requirement driven. The number and type of supplies, who needs them, when, and where, are all factors which determine the type and method of distribution. It is important for you to understand the characteristics and advantages of each type and the reasons for its use in your medical center.

SPD uses five main distribution methods to ensure the right product is delivered, in the right condition, at the right time.

- Par level
- Demand
- Exchange cart
- Case cart
- Specialty carts

Par Level Distribution

For most healthcare facilities the par-level system is an excellent means of managing user needs while controlling inventory. It is the most commonly used system and should be considered for all common use items. In a “par level” system, the SPD technician conducts routine inventories of supply closets, treatment rooms, and nurse-servers to determine what has been used. Supplies are replenished based on a pre-established or “par” level which has been set through communication with the end user. Par levels must be reviewed frequently and changed, if necessary, to reflect actual usage.



The SPD Technician is responsible for reviewing the stock levels and communicating with end users if changes are required.

A typical procedure for maintaining par level inventories is to assign a technician to each area or department. The technician inventories supplies in the treatment rooms, supply closets, and other storage areas using a bar code scanner and generates a list of the needed supplies. S/he then returns to the SPD department, fills the order and delivers the supplies to the user areas, restocking items to the agreed upon level. In healthcare facilities that use nurse-servers for storing patient care supplies, a pre-stocked mobile

cart may be used to restock the servers to par level. A list of all required items and levels is posted on the door. The SPD technician uses supplies from the cart to replenish the nurse servers on a scheduled basis. The SPD technician is responsible for keeping the cart stocked with all necessary supplies.

Demand Distribution

In demand distribution, the user area staff is responsible for maintaining adequate supply levels. They determine their needs, and request items from SPD. This can be done in person, by phone, or online. An SPD employee pulls the requested items from inventory and delivers them to the user area, where the requester is responsible for their storage and use. “On demand” requests can be made on a regularly scheduled basis or as the need arises—hence the name “demand”. While most healthcare facilities have used some form of the demand system at one time or another, it is not the most efficient method and relies heavily on the end users having the time to closely manage inventory. End users are often comfortable with this method because it is easy to use and they are familiar with it, but it takes away from the time they have to devote to patient care. It is the method of choice for rare or seldom used items.



Exchange Cart Distribution

The exchange cart system is also based on preset supply levels. Supplies are placed in a cart that is stored in the user area. An identical cart is stocked and maintained in the SPD area. On a regular basis, the SPD technician exchanges the stocked cart from the SPD area for the one in the user area, ensuring that adequate supplies are always on hand. Exchange carts are the method-of-choice for high inventory turnover areas such as O.R.s and ICUs. While the system is



convenient and easy to manage, there are additional costs associated with creating and maintaining duplicate carts.

Case Cart Distribution

In the case cart system, a cart is stocked with all the supplies needed for a specific surgical procedure or case. At the completion of the surgery, all contaminated reusable devices are placed in the cart. The cart is retrieved by SPD personnel and taken to the decontamination area for reprocessing. This enhances infection control by minimizing the chance of cross contamination.

The supplies and instruments for the case cart system may be provided by different methods, such as procedure cards, requisition forms, or computer printouts. With the computer assisted approach, each surgery is assigned a case number. Based on the surgery schedule for the day, an SPD computer operator generates a supply list for each case. An SPD technician pulls the required supplies and places them in a case cart. The stocked case cart is delivered to the operating room prior to the scheduled surgery time.

Specialty Cart Distribution

Specialty carts are carts that contain supplies needed in emergency or special situations. They must be solid or impervious covered and have a solid bottom shelf. After a specialty cart has been used, it must be returned to the receiving area and unused supplies removed, prior to taking the cart into the decontamination area for cleaning.



They include:

- ***Disaster carts***, which are stocked with medical supplies needed for use in a sudden community misfortune, such as a large traffic accident, bombing, or flood. This requires a cart that can be easily transported to the scene of the disaster, whether it is internal to the medical center or outside in the community (external).

- ***Implant carts***, which are carts stocked with implants, such as intraocular lens, vascular grafts, and knee and hip prostheses that are transported to the operating room at the time of the specific surgery.
- ***Crash/Code carts***, which are specialty carts that are used in emergency situations to revive victims from respiratory failure or cardiac arrest. SPD stocks the medical supplies and the pharmacy stocks the drugs and intravenous solutions. Crash carts are kept throughout the medical facility in order to be available when needed and they must be locked with a tamper proof lock. A list of all supplies and drug expiration dates must be posted on the outside of the cart. These carts should be inspected daily to ensure the security of the cart and exterior supplies and equipment.
- ***Special procedure carts***, as the name implies, are carts that contain supplies and equipment required for performing specific procedures. They include arterial line carts, central line carts, Swanz Ganz carts, urology carts, and suture carts. Specialty carts provide a means to be immediately responsive in time-critical situations. Keeping track of the carts, their locations, and contents requires diligence.



SPD employees should read the policy and procedures manual at their medical centers to know their role and what is expected of them during an emergency situation.

The efficient distribution system:

- Provides information on future supply needs
- Makes supplies available to the user in a timely, accurate manner
- Provides for control and documentation of inventory

Distribution Type:	Advantages	Disadvantages
Demand	<ul style="list-style-type: none"> • Simple • Easy-to-use • Familiar 	<ul style="list-style-type: none"> • Labor intensive • Not suitable for high volume distribution • May be low priority for personnel in patient care areas • Expensive because it encourages hoarding
Par Level	<ul style="list-style-type: none"> • User friendly, saves nurses time • Ensures optimum inventory levels 	<ul style="list-style-type: none"> • Distribution can be time-consuming • Heavy use may require the technician to make multiple trips to SPD • In large facilities, timeliness of restocking can be an issue
Exchange Cart	<ul style="list-style-type: none"> • Facilitates control and documentation of stock • Practical and easy-to-manage • Cost effective in terms of inventory levels, time, and manpower 	<ul style="list-style-type: none"> • Requires duplication of stock • Requires additional storage space • Initial start-up costs can be high
Case Cart	<ul style="list-style-type: none"> • Relieves nurses of supply duties, allowing focus on patient care • Allows efficient processing and management of equipment • Provides enhanced infection control • Ensures better inventory control 	<ul style="list-style-type: none"> • Requires additional expense and storage for carts • Efficiency is affected by SPD proximity to O.R. • May require more stringent dress and traffic control
Specialty Carts	<ul style="list-style-type: none"> • Allows quick and easy access • Ensures that required supplies are available in time-critical situations • Allows supplies to be readily available at point-of-use 	<ul style="list-style-type: none"> • Requires additional labor to ensure that expiration dates are checked routinely • Requires coordination with Pharmacy • Requires constant monitoring to ensure cart hasn't been opened

Delivery Methods and Equipment

SPD uses a variety of methods to transport supplies from one area to another.

- *Distribution carts* are closed or imperviously covered carts that are used to transport supplies. They should be sturdy, maneuverable, easy to roll, and closed to protect the supplies.
- *Dumbwaiters* and other mechanical devices are used to transport small quantities of supplies upon request.

CAUTION!

Pneumatic tubes should not be used as dumbwaiters. They operate using a vacuum and are intended only for paperwork. Placing supplies in them can compromise the packaging or lead to contamination.

- In emergency situations, SPD personnel may be requested to deliver items "*stat*," meaning immediately. "*Stat*" supplies should be hand delivered as soon as possible after receiving the request. Supplies must be protected during transport. Because of the possibility of a power failure, mechanical devices cannot ensure that "stat" items reach their destination within acceptable time limits.
- *Window pickup*—In some healthcare facilities, users can obtain items directly from SPD by coming to a designated pickup point in the department. This method of distribution is not recommended because it requires full time manning and pulls resources from other tasking, and because the user should not have to come get supplies. If it is necessary to provide this distribution option, a designated pickup location is required in order to minimize traffic in the SPD area. Technicians must log all supplies that are distributed through this method.

All distribution methods must be cleaned with a germicidal solution on a regular basis; this includes conveyors, storage areas, and transport vehicles or carts.

If an item is not delivered, in the right condition, at the right time, patient care can be affected. Careful handling and timely delivery also ensure that end users rely on SPD as an integral part of the healthcare team. This discourages hoarding and helps to contain costs.

The Distribution Process

Each step in the distribution process must be performed with accuracy and efficiency. There is no margin of error where patient health is concerned.

Selecting Items from Inventory

Distribution begins with a request for supplies or equipment. Generally the request is a computer generated list, but it can also be by phone or in person. It is your responsibility to inspect each item as it is pulled from inventory and to avoid delivering unusable items to user areas. Selecting the right item is just the beginning. For every supply request you should:

- Handle items carefully to avoid damaging or contaminating them.
- Verify the type and quantity before transporting to the point of use.
- On sterile items processed by SPD, check the **expiration date**, **external chemical indicator** (to verify the item was subjected to the sterilization process), and the packaging (to be sure it is not damaged, wet, or soiled).
- On commercially prepared sterile items inspect the expiration date and the packaging.

When pulling supplies from storage to fill a user request, you should always follow the FIFO principle. FIFO stands for First In, First Out and describes the practice of rotating stock by placing new items on the left, back bottom and pulling items for use from the right, top, front. This ensures that no single item remains on the shelf for too long, and that the items with the closest expiration dates get used first.

Delivering Items to Users

While supplies are being transported, the SPD technician is responsible for ensuring that they have the same protection that they are provided while stored in SPD. They must be covered with impervious material or enclosed to protect them from

environmental hazards. If a cart is used to transport supplies, it must have a barrier or solid bottom shelf to protect the supplies from the wheels and floor. Clean/sterile supplies must never be transported on the same carts or in the same containers as contaminated supplies. If an item is dropped or falls on the floor, it must be inspected to see if it is damaged or compromised. If damaged it must be returned to SPD and reprocessed or discarded.

Remember the 5 Rs!

***Right item to the
Right user, in the
Right place, at the
Right time,
Ready for use.***

Be careful when delivering supplies to other areas of the medical center. Never

leave distribution carts unattended. This can cause patient/employee injury, loss, or theft of supplies, and contamination of sterile supplies.

Tracking Medical Equipment

Each medical center has a procedure for tracking medical equipment. Some facilities track equipment by using a peg board, cardex, alphabetical file, or a computer system.

Each piece of equipment must be tracked in order to know where it is being used and to ensure that all required safety inspections and preventative maintenance have been performed.



NEVER deliver equipment to the point of use if it has not been inspected and determined to be functioning properly.

Summary

To users, the distribution area is possibly the most visible part of SPD. SPD personnel must remember that careful handling and timely delivery of supplies are needed in the patient care area. If not, the user may lose confidence in our services. This will cause the users to hoard supplies, resulting in duplication which can be costly. Patient care can be adversely affected if an item is not delivered, in the right condition, at the right time.

There are five main types of distribution systems:

- Par level
- Demand
- Exchange cart
- Case cart
- Specialty carts

The services the healthcare facility provides, its size, physical design, age, resources, and mission will all influence the distribution methods and process.

✓ Check What You Know

1. Match the following carts to their descriptions.

Implant	Used in emergency situations to revive victims from respiratory failure or cardiac arrest
Crash	Must be transported to the operating room when implant surgery is scheduled
Disaster	Stocked to deal with emergency misfortunes
Exchange	Provides the operating room with selected supplies for a specific surgery
Case	Requires two identical carts; one in SPD, one in user area

2. Match each term to the correct statement.

a. Par level	User is responsible for maintaining adequate supply levels
b. Demand	Supplies are restocked based on predetermined levels
c. Case cart	Supplies are replenished by swapping a used cart for a fully stocked one
d. Specialty Cart	Must be coordinated with the surgery schedule
e. Exchange cart	Stocked with supplies required for a specific emergency situation

3. Match each type of cart with its description.

Case cart	Allows optimum inventory levels
Demand	Simple and familiar, though labor intensive
Specialty Cart	Provides enhanced infection control
Par level	Ensures timeliness of supplies during emergency situations
Exchange cart	Minimizes inventory time, allows for thorough documentation, and control of patient care supplies

4. A surgical nurse calls and tells you that the long biopsy forceps being used in O.R. 3 have been dropped and she needs another one, STAT. What do you do?
 - a. Drop what you are doing and hand deliver another one to O.R. 3 immediately
 - b. Tell her to swipe one out of the cart in O.R. 2 and you will replace it
 - c. Tell her to flash sterilize it
 - d. Make a note to include two biopsy forceps in future trays
5. You receive a directive that describes a new, economical brand of tubing that the medical center will begin using. This tubing is stored in all secondaries and many nurse servers. What should you do?
 - a. Search the breakout room for the shipment of tubing, and hand carry a supply to each ward, discarding the old brand
 - b. Include the new tubing in all future exchange carts
 - c. Wait until your supervisor tells you what to do
 - d. Continue to use the current brand until the supply runs out
 - e. Notify the end users that the tubing will be changing
6. When delivering supplies to patient care areas:
 - a. Use open carts to speed delivery process
 - b. Use proper body mechanics to avoid injury
 - c. Insist that users sign for all items
 - d. Leave carts in the hall to avoid interrupting the workflow in congested areas
7. What should you do when pulling sterile supplies from stock to fill a user request?
 - a. Verify the type and quantity of item requested
 - b. Check the package expiration date
 - c. Examine the item to ensure that it is sterile
 - d. Examine the indicator to ensure that the package has been sterilized
 - e. Pull the item from the top, back left stock position

8. Which of the following are acceptable delivery methods for clean and sterile supplies?
- a. Dumbwaiter
 - b. In person for STAT items
 - c. Patient pickup
 - d. Distribution cart
 - e. Pneumatic tubes
9. Which of the following statements are true regarding SPD supply delivery methods?
- a. STAT deliveries must be scheduled on a regular basis
 - b. Pneumatic tubes and dumbwaiters must be used only for prescheduled deliveries
 - c. Distribution carts should not be used for contaminated item pickup
 - d. All supplies distributed through a “pickup” window must be logged

Terminology

The following terms were used in this module.

Case Cart System	a distribution system that requires SPD to assemble a cart of supplies based on the surgical procedure to be performed and deliver it to the operating room prior to the scheduled procedure, this system must be closely coordinated with the surgical schedule
Demand System	(Requisition and Delivery Distribution)—a distribution system that requires end users to inventory supplies, determine their need, and request replenishment from SPD (users ask for things when they need them)
diligence	meticulous care or attention
distribution area	the section of SPD where supplies are stored prior to being used; this includes the case cart area, clean/sterile storage and bulk storage
Exchange Cart System	a distribution system that involves stocking two identical supply carts with the items a user requires, one cart is kept in the user area and the other is kept stocked in SPD, replenishment is accomplished by exchanging the used cart for the fully stocked one
hoarding	keeping more than the required amounts of an item on hand, in order to avoid running out of it
Par Level Restocking	a distribution system that relies on preestablished stock levels, SPD inventories items on hand and replenishes them to the designated level
proximity	the closeness or nearness of one thing to another
Specialty Carts	a distribution system that requires SPD to assemble carts of supplies dedicated to a specific purpose (disaster, code, specialty procedure, etc.)